

## December 23<sup>rd</sup>, 2018 Sample Current Affairs

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## **1. The coral reef cover in Lakshadweep has shrunk by as much as 40% in just 18 years**

- Why the coral reefs in Lakshadweep are being eroded so fast?
- How do climate change affect the coral reef ecosystems?
- How does an extinction of coral reefs affect ocean ecosystem?

**GS paper 1 (Changes in critical geographical features (including waterbodies and ice-caps) and in flora and fauna and the effects of such changes)**

**In this video, you can find detailed answers for all the above questions.**

**The above article has been retrieved from:**

Soumya Sarkar.

(2018, December, 23). That sinking feeling: shrinking coral reef cover in Lakshadweep. The Hindu. Retrieved from <https://www.thehindu.com/sci-tech/energy-and-environment/that-sinking-feeling/article25741390.ece>

**What is the context about?**

- In India, Lakshadweep is the perfect example of how coral islands are formed and how the corals nurture marine life and also the people who depend on them.
- Coral reefs would decline by 70-90% with global warming of 1.5°C, whereas virtually all (more than 99%)

would be lost with a rise of 2°C compared with preindustrial times, the IPCC report said.

- ❑ Needless to say, the report is an urgent wake-up call for action.

### **Why the coral reefs in Lakshadweep are being eroded so fast?**

- ❑ In Lakshadweep, the corals suffered a disaster in 1998, when close to 90% of the reefs were destroyed.
- ❑ A combination of rising ocean temperatures due to global warming and localised threats has resulted in the loss of 50% of reef-building corals in the past 30 years. This has placed an estimated one-third of reef-building corals at the risk of extinction.
- ❑ At the same time, increased coastal erosion brought on partly by climate change is posing a danger to the islands. The erosion is severe in some cases.
- ❑ Recent research has indicated that the very shape and structure of the corals in the archipelago has changed, and by 2017, only 11% of the reef cover in Lakshadweep was left.

### **How do climate change affect the coral reef ecosystems?**

Climate change leads to:

- ❑ **A warming ocean:** causes thermal stress that contributes to coral bleaching and infectious disease.

- ❑ **Sea level rise:** may lead to increases in sedimentation for reefs located near land-based sources of sediment. Sedimentation runoff can lead to the smothering of coral.
- ❑ **Changes in storm patterns:** leads to stronger and more frequent storms that can cause the destruction of coral reefs.
- ❑ **Changes in precipitation:** increased runoff of freshwater, sediment, and land-based pollutants contribute to algal blooms and cause murky water conditions that reduce light.
- ❑ **Altered ocean currents:** leads to changes in connectivity and temperature regimes that contribute to lack of food for corals and hampers dispersal of coral larvae.
- ❑ **Ocean acidification (a result of increased CO<sub>2</sub>):** causes a reduction in pH levels which decreases coral growth and structural integrity.

**How does an extinction of coral reefs affect ocean ecosystem?**

### **Ill-effects of coral-less oceans**

- ❑ **Fisheries :** Coral reefs forms major habitat of fishes. If corals are lost, major fishing grounds will be lost which will affect the nutrition and food security to millions of people around the world.

- ❑ **Livelihood** : Many coastal communities are dependent on coral reefs whereby they harvest them for livelihood generation, which will be seriously affected. There will be a greater loss of tourism also. e.g., The great barrier reef is undergoing massive bleaching which resulted in lesser tourists visiting the place.
- ❑ Some great biodiversity of the ocean will be lost forever.
- ❑ **Natural buffer** : Coral reefs acts as natural buffer to tsunami, cyclones and other natural disasters. When corals are lost, there will be a loss in the natural buffer against such disasters